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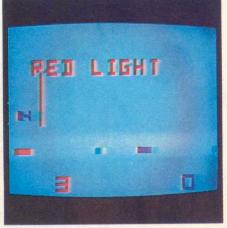
fairchild's

A programmable video game . . . with more than thirty

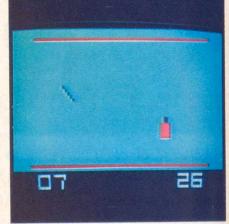
Blackjack



Drag Race



Shooting Gallery





THE first video game, the original Odyssey, made its debut in 1972. To play it, you had to put thin plastic overlays on the TV screen with strips of household cellophane

tape to provide the playing fields. The electronics were provided by printed circuit boards which were inserted into the game console.

Video games have come a long way since then. Today, electronic chips smaller than a fingernail, built right into the game consoles, activate the TV circuits already provided for game playing. They're responsible for the visual display, on-screen scoring, adjustable speed and skill positions, and for sound effects—and they make their calculations in millionths of a second.

There are two categories of video games today: the non-programmable (the games are limited to those hardwired into the unit) and the programmable (additional cartridges offer a greater variety of game selections). Fairchild's Channel F is a programmable unit for up to two players.

Two games, hockey and tennis, are built into the unit. In addition, there

are seventeen game cartridges at the present time, each with at least one game and numerous variations. Fairchild plans to release a new cartridge every month, which will expand game selection almost indefinitely.

The Channel F unit measures 3% x 12 x 13 (h/w/d) and weighs 8 pounds. The suggested retail price is \$169.95, which includes installation cables, an adaptor box, two hand controllers, built-in tennis and hockey games, and a dust cover. The Videocart cartridges have a list price of \$19.95.

Testing Procedure

The Channel F we tested (serial number 312093) was received unused direct from the manufacturer. Testing was conducted over a threeweek period in January and February 1978 in two different locations. The first group of tests was conducted in the Editor's home, and the games were displayed on a 17-inch Sony Trinitron (model KV-1724, serial number 51081, manufacture-dated April 1977). The second group of tests was conducted at the Technical Editor's home, using a 6-foot Advent projection TV (model 750, serial number 02388, manufacture-dated December 11, 1976).

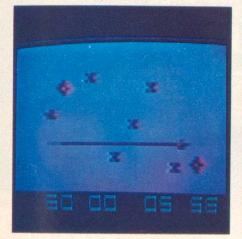
The purpose of the testing was to evaluate the quality and performance



channel F different games and hundreds of variations



Space War



Desert Fox



Spitfire





of the unit; to determine the relative ease or complexity of its operation, including the hand controls; and to rate the games themselves for fun, challenge, and educational/entertainment value (see the box on pages 12-13).

Overall Performance

Channel F will work with any size and any model TV set; color is preferable, of course, to take advantage of the color game displays.

We had some initial difficulty getting an interference-free picture when we connected the game to the TV set because the TV was hooked up to an outside cable TV system. Cable TV antennas (and community/master antennas) are 75 ohm; the game works on 300 ohm. Although the TV has a switch on the back to choose between 75 and 300 ohm, we couldn't get a completely interference-free picture until we disconnected the 75 ohm antenna. We could also have used a Balum (a wire plug converter that can be bought at most electronic stores for about \$5) to convert 300 ohm into 75 ohm.

Since large-screen projectors have 75 ohm inputs, we had to use a Balum to solve the ohm problem when connecting the game to the Advent for testing.

Once the hook-up difficulty was

solved, however, Channel F performed well.

Fairchild has described how their video game works by comparing it to a small TV transmitter. According to the manufacturer, the electronics in the game create an image and send that image to the TV screen. Therefore, because the game is transmitting to the entire TV set—not just placing a picture on the screen—there's no danger of harming the TV set.

Picture Quality

There are three primary colors used in the Fairchild system—red, blue, and green—as well as white, black,

and shades of gray.

We were favorably impressed with the detail and sharpness of most of the games we played. The computerlike "little people" on the screen, the cars, the rockets, etc. were quite sharp for the most part and relatively easy to see. The on-screen scoring numbers, instructions, and other legends were large enough and quite readable.

Audio Quality

Sound effects from the Channel F come from the game console itself, so the sound on the TV set has to be turned all the way down. The sound effects consist of a series of beeps and like noises that vary in speed ac-



THE GAMES

We received, tested, and reviewed nine Videocart cartridges in addition to the hockey and tennis games built into the Channel F console. Each game was rated on a 10–1 scale, 10 being the most fun, educational, entertaining, or challenging.* Few got a rating of 10; none received a 1.

Hockey Rated 7

2 players. Each player has a goalie and shooter to control with one hand controller. English can be added by twisting the hand control.

Tennis Rated 6

2 players. English can be added to the ball by twisting the hand control.

Videocart #1

Tic-Tac-Toe Rated 5

1 player plays against the computer. Regular Xs and 0s are put on the tic-tac-toe board. The computer acts fast, but it's possible to win.

Shooting Gallery Rated 7

1 player plays against the computer. An "electronic rifle," controlled by the hand controller, shoots at flying ducks. Every time you hit the target, the angle of the next shot is changed. Every time you miss, you lose a point. Challenging.

Doodle Rated 4

1 player. Using the controls, you "draw" on the screen. Difficult to control because it works very slowly. Not really a game and not adult entertainment.

Quadra-Doodle

Rated 3

The computer plays by itself by drawing its own pictures. All a player can do is lengthen the "doodle" lines by pressing the console button that selects the Doodle game and manually adding to the computerized picture. The display is extremely colorful and constantly changing. Children would like it.

nice feature of the Channel F is the Hold button; pressing

it lets you freeze the action at almost any time.

Videocart #2

Desert Fox

Rated 8

2 players. A tank chase game with advancing, retreating, lots of maneuvering possible. Challenging.

Shooting Gallery

Rated 7

1 player. Same game as contained on Videocart #1.

Videocart #3

Blackjack

Rated 10

2 players play against the house (computer), not each other. The computer deals a regular deck of 52 cards. The odds are against you but it's possible to win. Adult entertainment.

Videocart #4

Spitfire

Rated 6

1 or 2 players. Aerial dogfight game. Adjustable speed makes it exciting, but sometimes it's hard to tell if your plane is flying upside down. 1-player Spitfire against the computer is more challenging.

Videocart #5

Space War

Rated 9

2 players. The object of the game is to knock off the enemy space craft and get past it and back to your star base to win points. Exciting, with energetic sound effects. Fast-moving; you



The hand controllers were judged to be a bit more difficult to use than those of other programmable video games.

cording to the game being played and the action of the game. The volume of the sound effects is pre-set, and there's no volume control on the console. But they're loud enough to add excitement to the game playing.

The Channel F console has no audio output; you can't hook the game up to a stereo system.

Ease of Operation

Channel F works when the TV is tuned to channel 3 (or channel 4, if that is the unused channel in your area) and the on/off switch located on the back of the console is turned to the on position. If the game is kept on a table or other open area, the location of the on/off switch poses no problem; but because we kept the console on the shelf of the TV table and so had to reach around in a tight space to turn the unit on and off, we feel it's inconveniently placed.

The Videocart cartridges are inserted into the console the same way audio cartridges are inserted into a tape deck; a tracking slot on the cartridge guides it into the spot where it connects to the computer and holds it securely during operation. Fairchild recommends using the *Eject* control when removing the cartridge after game playing; this allows it to simply slide out of the slot.

All games are played by using both the remote hand controls and the five

buttons on the console control panel. The distance between the remotes and the console can't exceed three feet, which is just as well since you have to return to the console controls every time you re-start a game or change modes.

The buttons on the console are labeled 1, 2, 3, 4, and reset. The reset button is used to start and re-start a game; the numbered buttons have varied functions and capabilities depending on the game being played. For instance, button 1 selects the built-in hockey game or the first game on each cartridge; it's also the time button and the 2-minute mode control.

The hand controls too have varied functions and capabilities, and they're operated in different ways. Depending on the game being played, the button on the controller is pushed down, forward and back, left and right, or a combination of the aforementioned; the button can also be twisted left and right. These various maneuvers make the hand controls confusing, and in comparison to the hand controls of some other programmable games we've played, not as easy to use.

Fairchild provides an instruction booklet with the console and each cartridge telling what button does what for each game and giving precise directions for operating the

have to pay attention at all times.

Videocart #6

Math Quiz—Addition

1 player. Computer sets up math problem for player to solve. Problems are elementary, but it's so difficult to maneuver the hand controls you can't always control the direction the numbers will go; even if you know the correct answer, we found it easy to make a mistake.

Math Quiz-Subtraction

Rated 2

Rated 2

1 player. Same idea—and same operational problem—as Addition game.

Videocart #8

Magic Numbers

Rated 9

1 player. The object is to guess the computer's number within 20 guesses or within a set time. The timing modes are more exciting because you watch the moments slipping away as you try to guess the right number. It's very tricky; clues can lead you astray.

Nim No Rating

This game has many numbers whizzing by on the screen, and looks exciting. According to the instruction booklet, it's of Chinese origin and the oldest 2-person mathematical game known to man. Players have a choice of three, six, or nine piles, each containing from one to fifteen numbers. Each player is to take at least one number out of one pile at each turn; the player who takes the last number off the screen is the winner. We tried to figure this out for over an hour. We couldn't. When we called Fairchild for help, we were told that the only way to play was for one person to play against the computer—which was not what

the instructions said—and that the object was for either the single player or the computer to remove the last number from the screen. We tried figuring it out some more. We still couldn't; each time we played, the computer won. We prefer not to rate this game at this time.

Videocart #9

Dragstrip Rated 5

1 or 2 players. Each player controls a car. The object is to see how many times you can get to the finish line without crashing or losing an engine. Hard to maneuver and not very challenging, although sound effects are fun.

Videocart #12

Baseball Rated 10

2 players. Real baseball rules and maneuverable outfielders. The ball can be speeded up, slowed down, and curved. A game for all ages.

Eight Videocarts were not available for testing at the time we requested them; therefore, we were unable to evaluate and rate them. They are:

Videocart #7: Math Quiz #2 (Multiplication and Division)

Videocart #10: Maze, Cat and Mouse

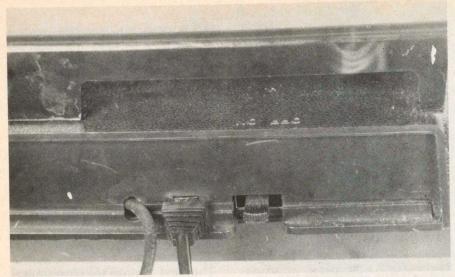
Videocart #11: Backgammon, Acey-Ducey Videocart #13: Torpedo Alley, Robot War

Videocart #14: Sonar Search

Videocart #15: Memory Match

Videocart #16: Dodge 'It Videocart #17: Pinball Challenge

*Please keep in mind that testing and evaluation of the games was done by adults. Although we tried to be as fair as possible, we know children may take a different view of the games.



The on/off switch is located on back of console—an inconvenient spot, we feel.

hand controls. Computer instructions appear on the TV screen at the start of each game too. But because the rules and operating procedures differ from game to game, getting them straight takes awhile; we kept the individual instruction booklets open in front of us while playing. The more you play, though, the more familiar you become with each game's directions and technique for playing, and the easier the games are to play.

The Videocarts

The Channel F game cartridges may look very much like the cartridges you put into your audio cassette deck, but that's where the similarity ends. When we took out the four little screws that hold the yellow casing together, we found a 2 x 2-inch piece of plastic with tiny lines and holes in it and two tiny computer chips on top. The piece of plastic is the circuit board, and that's what relates to the computer in the console; the information for the various games are contained on the mini chips. The casing is there only for protection. We don't advise that you take apart or otherwise tamper with a cartridge, by the way, as it's very easy to damage the delicate circuitry and so render the cartridge useless.

Channel F cartridges can't be used in other programmable game consoles, and vice versa, due to the differences in circuit boards and computer chips. According to Fairchild, it would be like comparing 8-track to cassette.

Maintenance

The electronic circuitry in the console is warranted free from defects for one year; the power adaptor, console, and hand controllers for ninety days from purchase. Damaged parts will either be replaced or repaired, at Fairchild's option, during the warran-

ty period at authorized Fairchild service centers; the unit can also be mailed directly to Fairchild for service. Out-of-warranty repairs are done for a fee.

Everyday maintenance consists of common-sense care: keep the unit

covered and away from excessive heat or moisture when not in use; dust frequently; avoid dropping or mishandling the cartridges; remember to turn the console off after use.

Conclusion

Fairchild's Channel F has a wide variety of games to choose from and play, with more on the way. There's something for everyone—from adult games like Blackjack to challenging skill games like Desert Fox to children's games like Doodle—making it a real family game system.

We found the different rules and operating procedures confusing at first . . . but then, we played the games one after the other, which may not be what the average purchaser would do. Once we got the directions down to memory, however, we found most of the games—with a few exceptions as noted in our games rating box—fun to play.

Fairchild offers two toll-free numbers to call if any questions or problems arise, which is a special service we consider very attractive. The number in California is 800-662-9850; outside California it's 800-532-7722.



VideoTest Report number 1

Fairchild's Channel F

DATA

Date of test: January-February 1978

Suggested retail price: \$169.95 (including installation cables, adaptor box, built-in hockey and tennis games, 2 hand controllers, dust cover)

Accessories: Videocart cartridges—\$19.95 each

Function: programmable video game

Operational requirements: TV set, preferably color

Dimensions:

3¾ inches (height) 12 inches (width)

13 inches (depth)

Weight: 8 pounds

Casing: wood grain and black plastic cabinet

Controls: on/off switch, Reset, Eject, 4-button panel for game selections,

skill modes, speed modes, and time modes
Color variations: red, blue, green, white, black, gray

Hi-fi output: no Earphone jack: no

Warranty: electronic circuitry—1 year; console, hand controllers, power

adaptor-90 days

Games available: ball games, war games, math games, number games, drawing games, Blackjack, Tic-Tac-Toe, Pinball, Shooting Gallery

TEST RESULTS AND RATINGS

Overall picture quality: Very good (color sharp and clear)

Computer figures: good (most sharp and detailed; some confusing)

Computer scoring and legends: very good (large and readable)

Overall audio quality: very good (sound effects correspond to action)
Ease of operation: fair to good (controls confusing until learned; on/off

switch inconveniently located)

Energy consumption: 12 watts maximum

Overall performance: very good

A new dimension for sound . . . a light show for the home

atari's video music



LISTENING to audio recordings is pretty much a one-dimensional experience—you just listen. Going to a rock concert, though, is often a two-dimensional

experience, since it is becoming a tradition for rock performers to provide visual as well as aural stimulation via light shows. Atari's Video Music provides this visual dimension for home music listening.

What Video Music does is display music graphically. It works by translating the intensity of music being played on a stereo system into visible colors, shapes, and patterns that can be seen on a TV screen. As the music plays, the image changes in response—so, in a way, you can "see" the music.

The Video Music unit looks somewhat like a typical stereo receiver. Made of clad steel, aluminum, and simulated walnut, it measures 4 x 14½ x 8½ inches (h/w/d). The suggested retail price is \$99.95, and included in the purchase are an interconnect RF switch box and a 2-channel audio cable terminated with RCA-type phono plugs.

Testing Procedure

Video Music was tested in late

February 1978 at the Editor's home by the Technical Editor. The unit (serial number 59494E) came direct from the manufacturer and had not been used before. The TV set used to display the Video Music output was a 17-inch color Sony Trinitron (model KV-1724; serial number 510851; manufacture-dated April 1977); the stereo system was a KLH (model 50; serial number AA5004311).

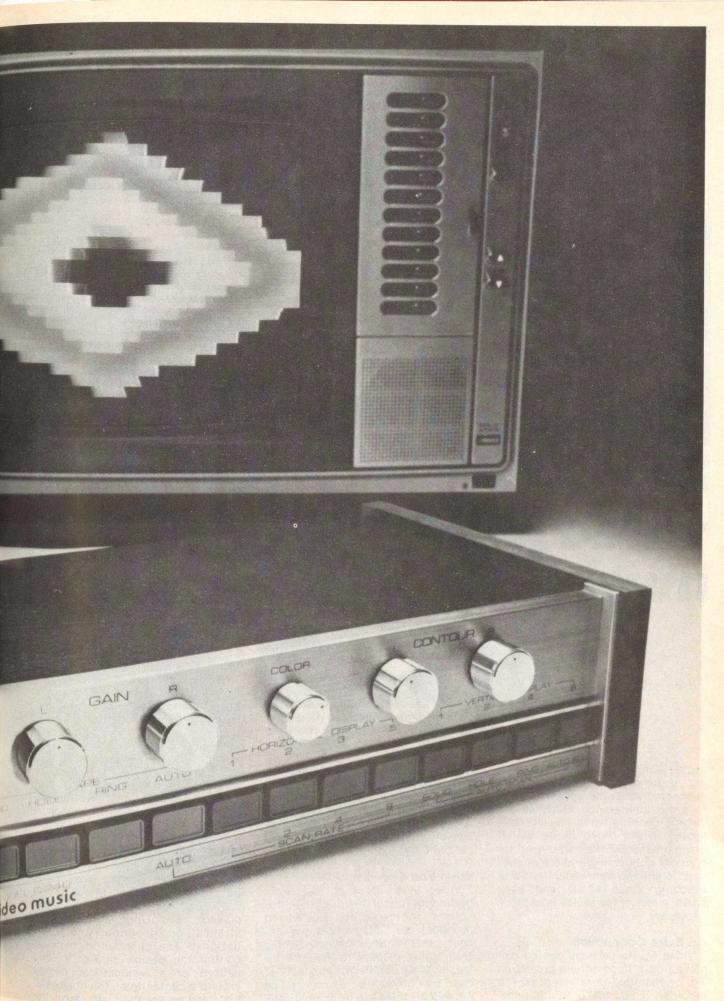
Making the Connections

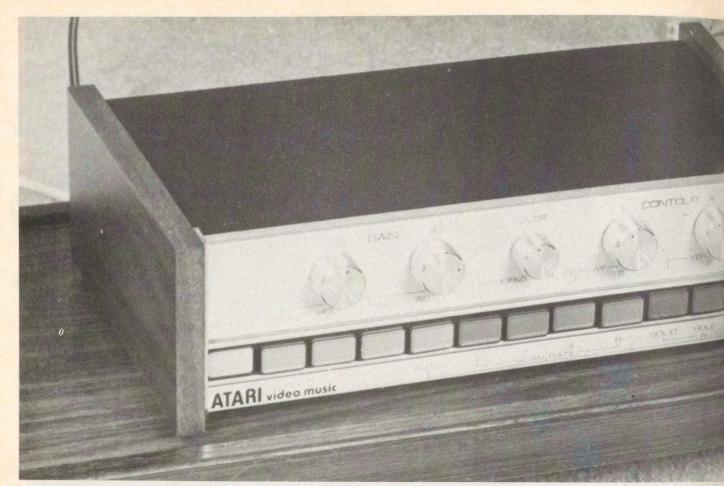
Our first hook-up was between the Video Music unit and our stereo, which was accomplished by inserting the supplied stereo cable into the record/out (or tape/out) plug on the stereo console, then plugging the output of the stereo into the Video Music input.

The hook-up to the TV set was next. First we took the cable attached to the back of the Video Music console and connected it to the RF switch box that comes with the unit. The switch box was then secured to the back of the TV (it has an adhesive backing) and its two wires attached to the VHF antenna terminals on the TV (Video Music works when the TV is tuned to VHF channel 3).

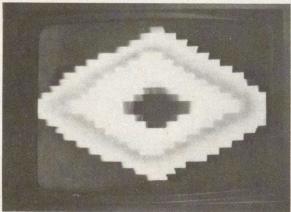
We discovered an attractive feature of the Video Music switch box at this point—it has a 75 ohm F connector compatible with outside cable antennas. Most switch boxes (such as those with video games) don't have this; the cable antenna remains con-







video music



This is just one of an almost unlimited number of designs Atari's Video Music can create.

nected with the TV when the TV is being watched and must be disconnected when the game is played to avoid interference. Because the outside cable antenna can be connected to the Video Music switch box permanently, there's no need for constant connecting and disconnecting; to change from watching TV to watching Video Music and back again, a flick of the switch is all that's necessary.

An Extra Connection

Video Music patterns can be displayed on a large-screen projection TV, or recorded on a videocassette recorder, if you make an additional purchase—a balun (see Glossary for complete explanation). Large-screen projectors and VCRs have 75 ohm inputs; the output of the Video Music is 300 ohm—the balun is needed to convert the output and make it compatible with 75 ohm inputs.

What You See

Video Music does not display a traditional "picture"—no pretty girls, houses, landscapes, still lifes. What it produces are patterns, designs, images, that change shape as the sounds they respond to change in intensity. The number of images that can be produced seems to be unlimited—there are no dramatically

different variations, however—and the colors are as varied as the shapes.

We tested rock music, classical music, and the local weatherman giving the latest weather update. No one type of audio created a distinctive pattern. When we turned the sound down and just watched the screen, it was impossible to tell what kind of audio was producing the picture.

What You Hear

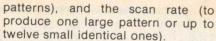
Since the audio does not come from the Video Music unit, what you hear depends on the quality of your stereo system. Incidentally, turning up the volume on the stereo only makes the audio louder—it does not affect the TV screen images.

Ease of Operation

Video Music has five potentiometers (instruments that measure electromotive forces) and twelve pushbutton controls located on the front of the console panel. The potentiometers are labeled Gain (to increase or decrease the size of the pattern), Color (to increase or decrease the number of colors displayed), and Contour (to soften shapes or produce geometric designs). The pushbutton switches control the design shape (a solid pattern or a symmetrical design around a center hole), the horizontal and vertical display (to turn the

TI VI see de of de of you all le le m To you it to but m m roo sh

The controls on Video Music let you select the type of design, number of colors, number of designs, and shape of displays...or you can use the automatic setting and let the machine make the variations. To use Video Music, you have to hook it up to a stereo and TV. It responds to the music played, but all types of music-jazz, classical, rock, etc.share common displays.



These controls can be operated manually or, once they're adjusted to your liking, Video Music can be set on Auto; it will then control itself. We felt Video Music was most enjoyable set on Auto.

The Color knob controls the amount of colors seen on the screen, not their quality; the fine tuning, tint, and color-level controls on the TV set have to be adjusted separately. We got the best results when the Automatic Fine Tuning was turned off on the TV, brightness was reduced, and contrast increased.

The *Power* pushbutton on the Video Music controls that machine only. It does not turn off the stereo receiver or TV set; these have to be turned off individually.

Maintenance

A one-year warranty comes with a Video Music purchase. According to Atari, the unit will be either repaired or replaced free of charge if a defect is discovered within ninety days. From ninety days to a year, only defective parts will be replaced free. You can still receive service from Atari after the warranty expires if the machine is sent to their headquarters in California postage prepaid, along with a check for \$30.

Atari provides an instruction

manual with each Video Music that includes a troubleshooting checklist. Typical trouble symptoms are listed along with recommendations for doit-yourself remedies. For example, if there's a buzzing sound coming from the TV speaker, the TV volume is probably on; it has to be turned all the way down when Video Music is being used. If the Video Music patterns are fuzzy, unsteady, or the color is weak, Atari suggests checking the connections at the TV antenna terminal or switch box to make sure screws are tight and/or adjusting the TV's finetuning control.

Simple common sense and a rudimentary knowledge of how to take care of delicate electronic equipment dictates everyday maintenance—careful handling, frequent dustings with a soft, dry cloth, and avoidance of abrupt temperature changes.

Conclusion

We found Video Music to be a well-constructed machine and an interesting component to be used as an adjunct to stereo sound. It does exactly what it's supposed to do, but it's our opinion that once the novelty wears off the display can become somewhat monotonous. This is not to say, however, that others won't consider it absolutely great, especially those who find it relaxing, stimulating, or therapeutic to watch psychedelic displays.



VideoTest Report number 7

Atari's Video Music

DATA

Date of test: February 1978

Model: #C240

Suggested retail price: \$99.95 (including interconnect RF switch box and

2-channel audio cable terminated with RCA-type plugs)

Function: translates intensity of audio to graphic images

Operational requirements: TV (preferably color); stereo system

Dimensions:

4 inches (height)

14½ inches (width)

81/2 inches (depth)

Weight: 61/2 pounds

Casing: clad steel, aluminum, and simulated walnut

Controls: 5 potentiometers—Gain (to increase or decrease image size), Color (to increase or decrease number of colors), Contour (to produce soft-or geometric shapes); 12 pushbutton switches—to determine horizontal display, vertical display, image shape, and number of designs—Power on/off; and Auto (machine controls display)

Warranty: 1 year

TEST RESULTS AND RATINGS

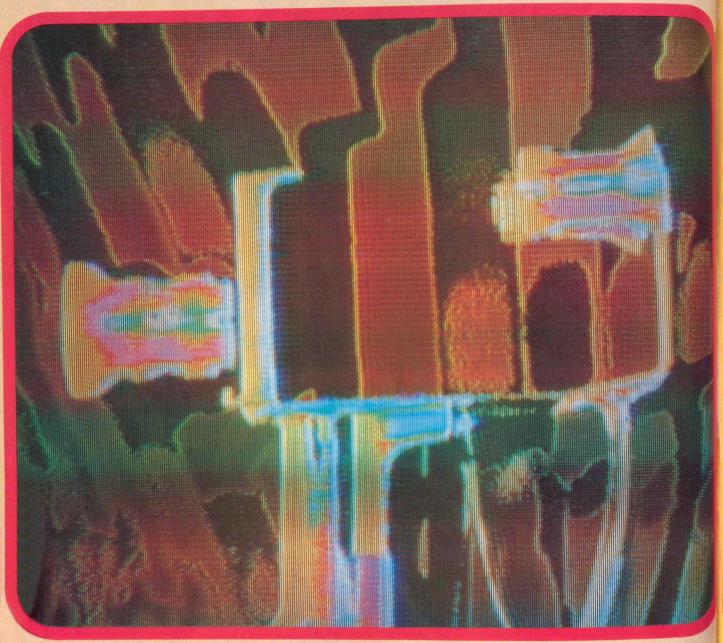
Ease of operations: good

Energy consumption: 6 watts maximum

Overall performance: good

August 24,1978

That's the date the next issue of VIDEO goes on sale at your newsstand. We're already busy preparing the tests and features, and here's a sample of what you can look forward to:



Complete Testing And Evaluation Of:

- *JVC Vidstar videocassette recorder
- * RCA Color Trak television
- *Imero Fiorentino's TV picture analyser
- *The VideoBrain home computer from Umtech
- *Sony Betamax b/w video camera

- Interview with Jack Jones on Video
 Update on the Videodisc Systems
- New Products
- * Technical Q & A
- Software and more

If you're into video, you can't afford to miss the Fall 1978 issue of VIDEO. Use the subscription coupon on page 71 or get to your newsstand early!